

09/707,413

E0794

REMARKS

Claims 1-8 are currently pending in the subject application, and are presently under consideration. Please cancel claims 2 and 21 without prejudice or disclaimer. Claims 9-20 have been withdrawn pursuant to a restriction requirement. Claims 1, 2, 5, and 7 have been amended herein. A complete listing of claims is located at pages 2-3 of this Reply.

It is respectfully submitted that the finality of the Office Action dated May 9, 2002 should be withdrawn. Accordingly to §706.07(a) of the MPEP, "a second or any subsequent action on the merits in any application ... should not be made final if it includes a rejection, on prior art not of record, of any claim amended to include limitations which should reasonably have been expected to be claimed... For example, one would reasonably expect that a rejection under 35 U.S.C. 112 for the reason of incompleteness would be replied to by an amendment supplying the omitted element." Claims 1-8 were rejected on newly cited art in the Office Action dated January 6, 2003; however, the amendments made to the claims in the previous Reply to Office Action should have been reasonably expected as they were made in response to a rejection under 35 U.S.C. 112. Accordingly, it is submitted that the finality of the Office Action was premature and withdrawal of the finality is requested.

Favorable reconsideration of the application is requested in view of the comments and amendments made herein.

I. Rejection of Claim 21 Under 35 U.S.C. §112, First Paragraph

Claim 21 is rejected under 35 U.S.C. §112 first paragraph. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Claim 21 has been cancelled herein. Accordingly, withdrawal of this rejection is respectfully requested.

II. Rejection of Claims 1-8 and 21 Under 35 U.S.C. §112, Second Paragraph

Claims 8 and 21 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection should be withdrawn for at least the following reasons.

In the Office Action dated January 6, 2003, the Examiner stated that "it is not clear what particular structure, if any, corresponds to the limitation '*adapted to receive* at least one

09/707,413

E0794

coated semiconductor substrate” in claim 1, line 2. Accordingly, claim 1 has been amended herein to recite “a chamber *for receiving* at least one coated semiconductor substrate.”

Claims 1-8 are also rejected as being incomplete for omitting essential structural cooperative relationships of elements. Accordingly, claim 1 has been amended herein to include the structural cooperative relationships among the chamber, the coupling, the reservoir, the inlet valve, and the controller.

For at least the aforementioned reasons, withdrawal of this rejection is respectfully requested.

III. Rejection of Claims 1-4, 7, and 8 Under 35 U.S.C. §102(e)

Claims 1-4, 7, and 8 stand rejected under 35 U.S.C. §102(e) as being anticipated by Nishizawa et al. (U.S. Patent No. 6,464,793). This rejection should be withdrawn for at least the following reasons. Nishizawa et al. does not disclose each and every element set forth in the subject claims.

For a prior art reference to anticipate, 35 U.S.C. §102 requires that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (quoting *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)).

Nishizawa et al. does not disclose a cooling system which includes an inlet valve attached to a coupling for controlling a flow of cooling fluid between the fluid reservoir and the chamber, wherein the pressure drop across the inlet valve is at least about 10 bar, as recited in claim 1. Applicants found that by varying the pressure difference between the fluid reservoir and the chamber, the temperature of the cooling fluid entering the chamber can be controlled. In contrast, Nishizawa et al. is directed to a semiconductor crystal growth apparatus suited for forming monocrystalline growth layers. Nozzles 4 and 5 are employed in Nishizawa et al. for introducing gaseous compounds containing III and V group elements. Nozzles 4 and 5 are provided with on-off valves 6 and 7 for controlling the introduced amounts of gaseous compounds. In the Office Action dated January 6, 2003, the Examiner relies on the on-off valves 6 and 7 of Nishizawa et al. as being equivalent to the claimed inlet

09/707,413

E0794

valve. However, Nishizawa et al. does not disclose that on-off valves 6 and 7 include a pressure drop of at least about 10 bar.

Therefore, because Nishizawa et al. does not disclose each and every element set forth in claim 1, Nishizawa et al. does not anticipate claim 1. Withdrawal of this rejection and allowance of claim 1 and claims 2-8, which depend therefrom are respectfully requested.

IV. Rejection of Claims 1-6 Under 35 U.S.C. §102(b)

Claims 1-6 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kazama et al. (U.S. Patent No. 5,567,267). It is submitted that this rejection should be withdrawn for at least the following reasons. Kazama et al. does not disclose each and every element as set forth in the subject claims.

In particular, Kazama et al. does not disclose a cooling system which includes an inlet valve attached to a coupling for controlling a flow of cooling fluid between the fluid reservoir and the chamber, wherein the pressure drop across the inlet valve is at least about 10 bar, as recited in claim 1. Rather Kazama et al. is directed to a susceptor of a plasma etching apparatus arranged on a heater fixing frame. The Examiner relies on valve 29, or alternatively, valve 56 of Kazama et al. as being equivalent to the claimed inlet valve. However, there is nothing in Kazama et al. which discloses that either valve 29 or valve 56 include a pressure drop of at least about 10 bar.

Therefore, because Kazama et al. does not disclose each and every element set forth in claim 1, Kazama et al. does not anticipate claim 1. Withdrawal of this rejection and allowance of claim 1 and claims 2-8, which depend therefrom are respectfully requested.

V. Rejection of Claims 1-4 and 7 Under 35 U.S.C. §102(b)

Claims 1-4 and 7 stand rejected under 35 U.S.C. §102(b) as being anticipated by Krueger (U.S. Patent No. 5,131,460). It is submitted that this rejection should be withdrawn for at least the following reasons. Krueger does not disclose each and every element as set forth in the subject claims.

In particular, Krueger does not disclose a cooling system which includes an inlet valve attached to a coupling for controlling a flow of cooling fluid between the fluid reservoir and the chamber, wherein the pressure drop across the inlet valve is at least about 10 bar, as

09/707,413

E0794

recited in claim 1. The Examiner relies on valves 78 or 42 of Krueger as being equivalent to the claimed inlet valve. Valves 78 and 42 are employed to cause gas to flow from a reservoir 46 into a chamber 12. However, Krueger describes the gas as being heated or cooled as it flows through and over the surface of a heating or cooling plate 30. Thus, Krueger does not disclose that the valves 78 and 42 control a flow of *cooling* fluid between the reservoir 46 and the chamber 12. Moreover, there is nothing in Krueger which discloses that either valve 78 or valve 42 include a pressure drop of at least about 10 bar.

Therefore, because Krueger does not disclose each and every element set forth in claim 1, Krueger does not anticipate claim 1. Withdrawal of this rejection and allowance of claim 1 and claims 2-8, which depend therefrom are respectfully requested.

VI. Rejection of Claims 1-4 and 21 Under 35 U.S.C. §102(b)

Claims 1-4 and 21 stand rejected under 35 U.S.C. §102(b) as being anticipated by Sikes (U.S. Patent No. 5,709,262). It is submitted that this rejection should be withdrawn for at least the following reasons. Sikes does not disclose each and every element as set forth in the subject claims.

In particular, Sikes does not disclose a cooling system which includes an inlet valve attached to a coupling for controlling a flow of cooling fluid between the fluid reservoir and the chamber, wherein the pressure drop across the inlet valve is at least about 10 bar, as recited in claim 1. Sikes describes an electrically activated valve 38 employed to allow coolant in a first conduit 34 to flow through the valve and into energy source 16. However, there is no mention in Sikes of a pressure drop across the valve of at least about 10 bar.

Therefore, because Sikes does not disclose each and every element set forth in claim 1, Sikes does not anticipate claim 1. Withdrawal of this rejection and allowance of claim 1 and claims 2-8, which depend therefrom are respectfully requested.

09/707,413

E0794

VII. Conclusion

The present application is believed to be condition for allowance in view of the amendments and comments herein. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

The Examiner is invited to contact applicants' undersigned representative over the telephone to expedite favorable prosecution of the subject application.

Respectfully submitted,
AMIN & TUROCY, LLP



Una L. Schumacher
Reg. No. 48,998

AMIN & TUROCY, LLP
24th Floor, National City Center
1900 East 9th Street
Cleveland, Ohio 44114
(216) 696-8730 (Telephone)
(216) 696-8731 (Facsimile)